

PRODUCT INFORMATION PACKET

marathon[®]
Motors

Model No: TCA0303A3131GACD01

Catalog No: TCA0303A3131GACD01

30.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1000 RPM, 415 V, 225M Frame, TEFC
Cast Iron IE3 Efficiency Motors



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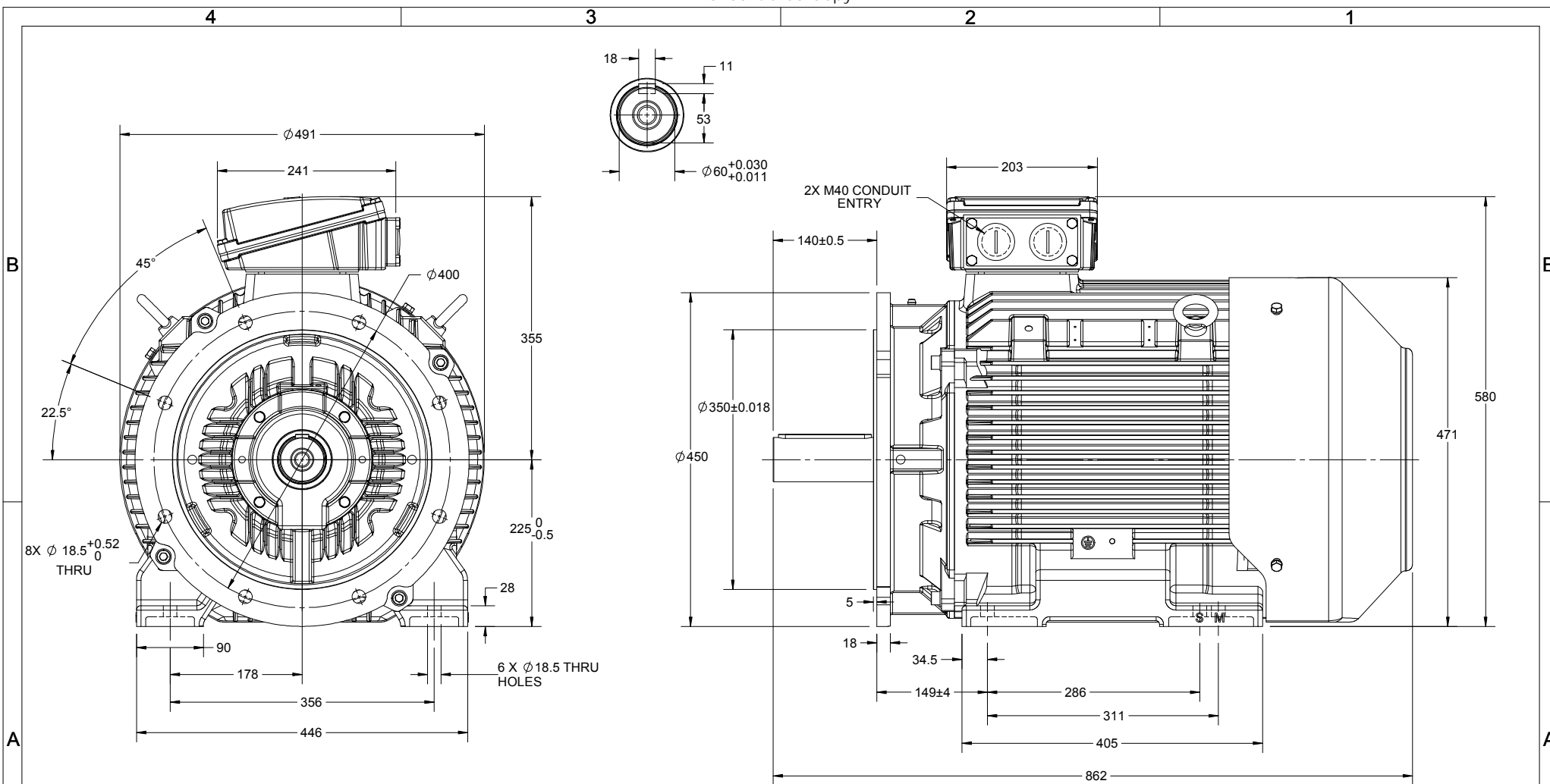
Nameplate Specifications

| | | | |
|----------------------------|--------|------------------------|-----------------------------|
| Output HP | 40 Hp | Output KW | 30.0 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 54.8 A | Speed | 988 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 92.9 % | Power Factor | 0.82 |
| Duty | S1 | Insulation Class | F |
| Frame | 225M | Enclosure | Totally Enclosed Fan Cooled |
| Ambient Temperature | 50 °C | Drive End Bearing Size | 6313 |
| Opp Drive End Bearing Size | 6213 | UL | No |
| CSA | No | CE | Yes |
| IP Code | 55 | | |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 6 | Rotation | Bi-Directional |
| Mounting | B35 | Motor Orientation | Horizontal |
| Drive End Bearing | C3 | Opp Drive End Bearing | C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 862 mm | Frame Length | 425 mm |
| Shaft Diameter | 60 mm | Shaft Extension | 140 mm |
| Assembly/Box Mounting | Top | | |
| Outline Drawing | 0222500463 | Connection Drawing | 8442000085 |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| DRAWING REVISION B | REVISION BY NIV | DATE 24/04/2019 |
| ECO ECO-0165600 | APPROVED BY SR | DATE 24/04/2019 |
| ECO DESCRIPTION MODEL UPDATED | | |
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| | | |
|---------------------------|-------------------------------|------------------------------|
| DRAWN BY JOY | | |
| DATE 18/07/2014 | | |
| APPROVED BY SBD | DESCRIPTION OUTLINE | |
| DATE 18/07/2014 | 225FR-B35 MTG MOTOR TYPE: TCA | |
| REFERENCE | MATERIAL | PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE B | DRAWING NUMBER 0222500463 |
| | | SHEET 1 OF 1 |

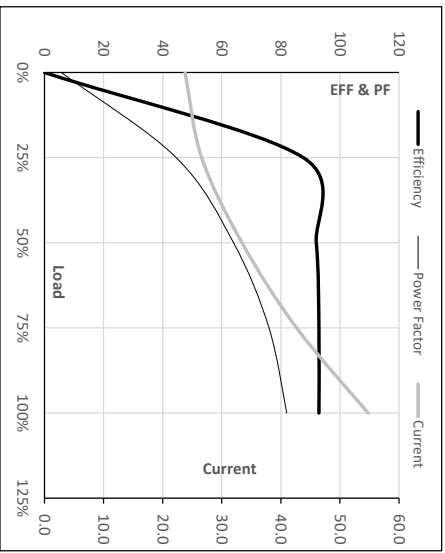
Model No. TCA0303A3131GA CD01

| Enclosure | U (V) | Δ /Y Conn | f (Hz) | P (kW) | P (hp) | I (A) | n (RPM) | T (kgm) | T (Nm) | IE Class | Amb Temp (°C) | Duty | Elevation (m) | Inertia (kg·m ²) | Weight (kg) |
|-----------|-------|------------------|--------|--------|--------|-------|---------|---------|--------|----------|---------------|------|---------------|------------------------------|-------------|
| TFC | 415 | Δ | 50 | 30 | 40 | 54.8 | 988 | 29.41 | 288.40 | IE3 | 50 | S1 | 1000 | 1.0246 | 41.1 |

Motor Load Data

| Load Point | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|-------|-------|-------|-------|-------|
| Current | A | 23.8 | 26.6 | 33.4 | 42.7 | 54.8 |
| Torque | Nm | 0.0 | 71.4 | 143.3 | 215.6 | 288.4 |
| Speed | r/min | 1000 | 997 | 994 | 991 | 988 |
| Efficiency | % | 0.0 | 87.6 | 92.0 | 92.9 | 92.9 |
| Power Factor | % | 5.7 | 44.6 | 64.0 | 76.0 | 82.0 |

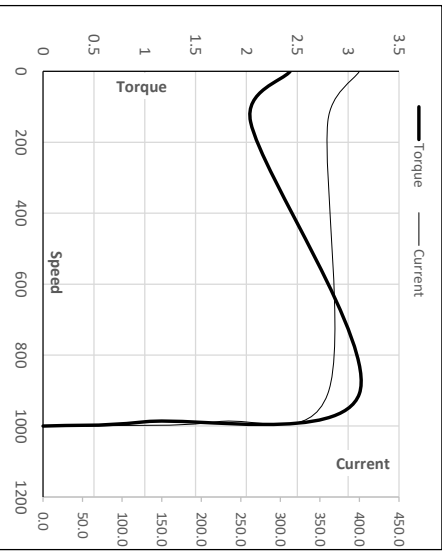
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | LR | P-Up | BD | Rated | NL | |
|------------|-------|-------|-------|-------|------|------|
| Speed | r/min | 0 | 143 | 909 | 988 | 1000 |
| Current | A | 400.0 | 360.0 | 219.9 | 54.8 | 23.8 |
| Torque | pu | 2.4 | 2.0 | 3.1 | 1 | 0 |

Starting Characteristics Chart



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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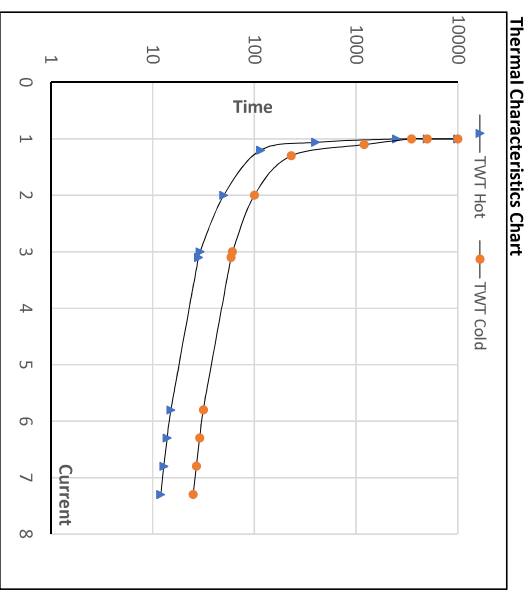


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|-----------|-----|-------------|------|------|------|------|-------|-------|--------|-------|------|------|-----------|----------------------|--------|
| Enclosure | U | Δ /Y | f | P | P | I | n | T | T | IE | Amb | Duty | Elevation | Inertia | Weight |
| | (V) | Conn | [Hz] | [kW] | [hp] | [A] | [rpm] | [kgm] | [Nm] | Class | [°C] | | [m] | [kg·m ²] | [kg] |
| TEFC | 415 | Δ | 50 | 30 | 40 | 54.8 | 988 | 29.39 | 288.40 | IE3 | 50 | S1 | 1000 | 1.0246 | 411 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR | |
|----------|----|----------------|----------------|----------------|----------------|----------------|-----|-----|
| TWT Hot | s | 10000 | 50 | 29 | 25 | 20 | 17 | 12 |
| TWT Cold | s | 10000 | 100 | 61 | 55 | 40 | 35 | 25 |
| Current | pu | 1 | 2 | 3 | 4 | 5 | 5.5 | 7.3 |



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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